

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P914390

Luminaire Tested: DFN2DIP-SQ2F0-030D050US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914390
REPORT IS A COMBINATION OF REPORTS P899796 AND P896659
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-030D050US927-RLLFLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

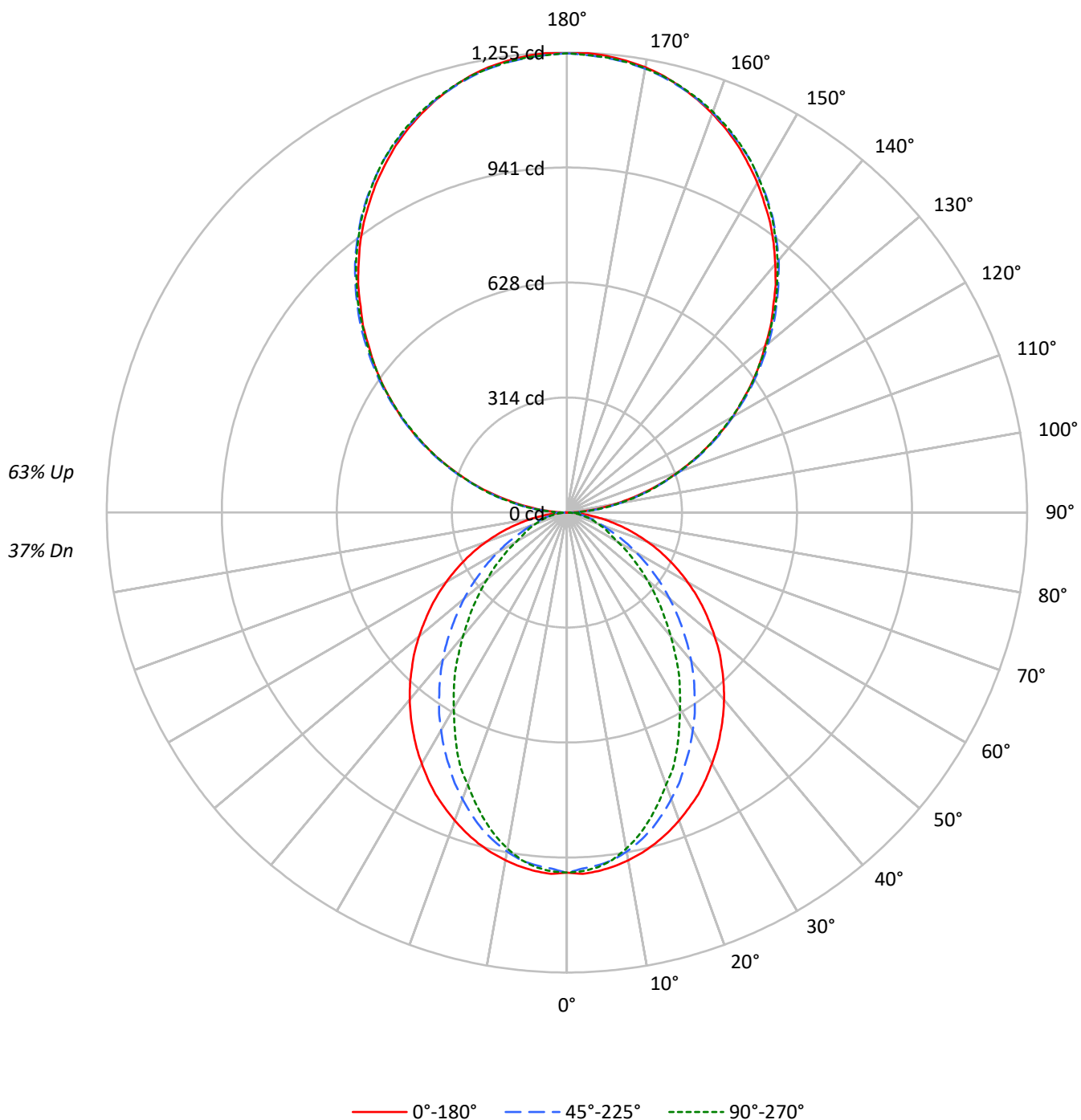
Lumens per Lamp: N/A
Luminaire Lumens: 5525.5 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 60.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44
1	95	91	87	84	86	83	80	77	67	65	63	53	51	50	39	38	38
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32
3	79	70	64	58	72	64	58	53	52	48	45	41	39	36	31	29	28
4	73	63	55	49	66	57	51	46	47	42	38	37	34	31	28	26	24
5	67	56	48	42	60	51	44	39	42	37	33	33	30	27	26	23	21
6	62	50	42	37	56	46	39	34	38	33	29	30	27	24	23	21	19
7	57	45	38	32	52	41	35	30	34	29	26	28	24	21	21	19	17
8	53	41	34	29	48	38	31	27	31	26	23	25	22	19	20	17	15
9	49	38	30	25	45	34	28	24	29	24	20	23	20	17	18	16	14
10	46	34	27	23	42	32	25	21	26	22	18	22	18	16	17	14	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2160	2160	2160
5°	2159	2121	2136
10°	2134	2075	2064
15°	2101	2001	1953
20°	2059	1902	1819
25°	2015	1793	1690
30°	1958	1680	1527
35°	1901	1560	1383
40°	1844	1436	1219
45°	1777	1299	1071
50°	1708	1162	926
55°	1636	1015	788
60°	1551	862	646
65°	1455	707	578
70°	1337	564	518
75°	1189	488	465
80°	977	396	394
85°	635	246	281

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1777 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	1.7
10°-20°	252.7	4.6
20°-30°	354.8	6.4
30°-40°	386.8	7.0
40°-50°	355.5	6.4
50°-60°	279.2	5.1
60°-70°	181.7	3.3
70°-80°	93.5	1.7
80°-90°	27.5	0.5
90°-100°	77.5	1.4
100°-110°	246.3	4.5
110°-120°	421.5	7.6
120°-130°	554.3	10.0
130°-140°	622.2	11.3
140°-150°	610.1	11.0
150°-160°	511.8	9.3
160°-170°	339.4	6.1
170°-180°	118.6	2.1
0°-30°	699.6	12.7
0°-40°	1086.3	19.7
0°-60°	1720.9	31.1
0°-90°	2023.6	36.6
90°-120°	745.3	13.5
90°-150°	2532.0	45.8
90°-180°	3502.0	63.4
0°-180°	5525.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	982	982	982	982	982	
5°	982	978	966	974	972	93
15°	934	924	894	877	868	263
25°	848	820	761	724	711	390
35°	731	685	607	551	532	457
45°	597	538	444	381	360	461
55°	454	385	289	236	219	406
65°	307	235	155	124	122	304
75°	164	101	71	65	64	173
85°	38	20	17	17	17	44
90°	1	14	37	35	36	5
95°	55	66	68	68	66	61
105°	227	230	233	234	234	240
115°	423	429	427	426	423	418
125°	615	625	622	618	617	550
135°	796	807	810	809	806	615
145°	966	974	980	981	977	604
155°	1105	1108	1111	1116	1113	508
165°	1202	1201	1201	1208	1203	339
175°	1250	1247	1245	1253	1246	119
180°	1253	1253	1253	1253	1253	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	982.2	982.2	982.2	982.2	982.2
2.5°	986.7	982.2	972.4	981.4	979.6
5°	982.2	977.8	966.2	974.2	971.5
7.5°	974.2	968.9	956.5	960.0	955.5
10°	963.5	957.4	939.6	936.8	931.6
12.5°	950.2	942.2	918.2	912.9	903.1
15°	934.2	924.4	894.2	877.3	868.5
17.5°	915.5	901.3	864.0	844.5	830.2
20°	894.2	876.4	831.9	809.8	790.2
22.5°	871.2	850.6	799.1	768.9	755.6
25°	848.0	819.5	760.9	724.4	711.1
27.5°	820.5	790.2	725.3	683.6	663.1
30°	791.2	757.3	686.2	641.0	616.9
32.5°	762.6	721.8	649.0	595.6	573.3
35°	730.7	685.3	607.1	551.1	531.6
37.5°	699.6	650.6	568.0	506.6	484.5
40°	666.7	613.4	527.1	464.0	440.9
42.5°	632.9	576.1	486.2	420.4	398.2
45°	597.4	537.7	444.5	381.3	360.0
47.5°	563.6	500.5	404.5	341.3	321.8
50°	526.2	463.1	365.4	304.0	285.3
52.5°	489.7	423.1	328.0	269.3	252.5
55°	454.2	384.8	288.8	235.6	218.7
57.5°	417.8	346.7	254.3	204.5	190.2
60°	380.4	309.3	217.8	172.5	158.3
62.5°	344.0	272.9	186.6	144.0	137.0
65°	306.7	234.6	154.6	124.5	121.8
67.5°	271.2	199.1	124.5	109.3	106.6
70°	233.8	164.5	103.1	94.2	90.6
72.5°	198.2	132.4	86.2	79.1	77.3
75°	163.5	101.3	71.1	64.9	64.0
77.5°	128.9	71.9	56.0	52.4	50.6
80°	96.9	51.6	42.6	39.1	39.1
82.5°	67.5	34.7	29.3	27.6	27.6
85°	38.2	19.5	16.9	16.9	16.9
87.5°	14.3	7.1	7.1	6.3	6.3
90°	1.1	13.6	37.0	34.8	35.9
92.5°	23.4	31.7	32.9	34.0	34.0
95°	55.1	65.8	67.6	67.6	65.8
97.5°	91.7	101.6	105.8	105.8	105.8
100°	134.0	142.8	145.8	145.8	144.7
102.5°	178.6	185.1	189.2	190.4	189.2
105°	227.4	230.4	232.7	234.5	234.5
107.5°	275.7	280.2	280.2	281.0	275.7
110°	322.5	328.6	328.6	328.6	325.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	373.1	379.5	378.4	375.4	373.1
115°	422.9	429.0	427.1	426.0	422.9
117.5°	472.5	480.8	475.5	472.5	469.4
120°	522.3	530.6	522.3	522.3	518.9
122.5°	567.6	578.2	572.9	569.9	567.6
125°	615.2	624.6	621.6	618.2	617.1
127.5°	661.6	673.4	669.2	664.6	661.6
130°	705.1	718.7	716.8	714.5	710.3
132.5°	753.8	764.4	765.2	759.9	756.8
135°	795.7	807.4	809.7	808.6	805.6
137.5°	842.6	852.0	853.9	853.1	848.6
140°	883.7	893.2	898.4	898.4	894.3
142.5°	926.0	935.5	938.5	939.6	935.5
145°	966.1	973.6	979.6	980.8	976.6
147.5°	1002.0	1011.4	1015.9	1017.8	1013.6
150°	1038.9	1045.4	1049.5	1052.9	1049.5
152.5°	1071.8	1078.2	1083.5	1087.7	1083.5
155°	1104.6	1107.6	1111.0	1116.3	1112.9
157.5°	1133.0	1135.2	1137.1	1144.7	1139.4
160°	1158.2	1160.5	1161.7	1168.1	1163.6
162.5°	1181.7	1181.7	1182.8	1190.0	1184.7
165°	1201.7	1200.6	1200.6	1208.2	1202.8
167.5°	1219.8	1216.4	1216.4	1224.0	1218.7
170°	1233.4	1230.4	1229.3	1236.8	1230.4
172.5°	1242.9	1239.8	1238.7	1246.3	1239.8
175°	1250.5	1247.4	1245.2	1252.7	1246.3
177.5°	1254.6	1251.6	1249.3	1255.7	1249.3
180°	1252.7	1252.7	1252.7	1252.7	1252.7

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	8.31	9.04	9.38	10.11	11.56	4.27	5.00	5.34	6.07	7.52
	3H	9.96	10.62	11.04	11.69	13.16	5.43	6.09	6.51	7.17	8.64
	4H	10.55	11.17	11.64	12.25	13.73	5.87	6.49	6.96	7.57	9.04
	6H	10.95	11.52	12.05	12.61	14.09	6.17	6.74	7.27	7.82	9.31
	8H	11.07	11.61	12.17	12.71	14.19	6.25	6.79	7.35	7.89	9.37
	12H	11.12	11.63	12.23	12.72	14.23	6.28	6.79	7.39	7.88	9.39
4H	2H	8.31	8.93	9.41	10.01	11.49	4.84	5.46	5.94	6.54	8.02
	3H	10.11	10.63	11.21	11.73	13.22	6.16	6.68	7.27	7.78	9.27
	4H	10.78	11.26	11.89	12.35	13.86	6.69	7.17	7.80	8.26	9.77
	6H	11.27	11.68	12.39	12.80	14.30	7.09	7.49	8.20	8.61	10.11
	8H	11.44	11.81	12.55	12.92	14.44	7.20	7.58	8.32	8.69	10.21
	12H	11.52	11.86	12.65	12.98	14.50	7.25	7.60	8.39	8.72	10.24
8H	4H	10.74	11.12	11.85	12.23	13.75	6.95	7.33	8.07	8.44	9.96
	6H	11.28	11.59	12.42	12.74	14.26	7.44	7.76	8.58	8.91	10.42
	8H	11.48	11.76	12.63	12.89	14.42	7.62	7.89	8.76	9.03	10.56
	12H	11.60	11.84	12.75	12.97	14.54	7.72	7.96	8.87	9.09	10.66
12H	4H	10.69	11.03	11.82	12.15	13.67	6.95	7.29	8.08	8.42	9.94
	6H	11.25	11.53	12.40	12.66	14.20	7.49	7.76	8.63	8.89	10.43
	8H	11.46	11.70	12.60	12.82	14.40	7.68	7.92	8.82	9.05	10.62